

ABSTRACT

Disclosed is a copper alloy. The copper alloy consists essentially of Cu : 69 to 88 mass%, Si : 2 to 5 mass%, Zr : 0.0005 to 0.04 mass%, P : 0.01 to 0.25 mass%, and Zn : balance; has relation of, in terms of a content of an element a, [a] mass%, $f_0 = [\text{Cu}] - 3.5[\text{Si}] - 3[\text{P}] = 61 \text{ to } 71$, $f_1 = [\text{P}]/[\text{Zr}] = 0.7 \text{ to } 200$, $f_2 = [\text{Si}]/[\text{Zr}] = 75 \text{ to } 5000$, and $f_3 = [\text{Si}]/[\text{P}] = 12 \text{ to } 240$; has a metal structure that contains α phase and, K phase and/or γ phase, and has relation of, in terms of a content of a phase b, [b]%, in an area rate, $f_4 = [\alpha] + [\gamma] + [\text{K}] \geq 85$ and $f_5 = [\gamma] + [\text{K}] + 0.3[\mu] - [\beta] = 5 \text{ to } 95$; and has an average grain diameter of 200 μm or less in a macrostructure when melted and solidified.